AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (*Currently Amended*) A method ~~Method~~ to generate a pseudo-random sequence ~~(PRMS1)~~ of multi-carrier data symbols ~~(DMT0, DMT1, DMT2)~~, said method comprising:

[[a.]] producing a pseudo-random bit sequence ~~(PRBS1)~~ by repetitively generating a pseudo-random sequence of L bits, L being a first integer value ~~(L=4)~~;

[[b.]] packetizing into multi-carrier data symbols ~~(DMT0, DMT1, DMT2)~~ thereby using N bits of said pseudo-random bit sequence ~~(PRBS1)~~ per multi-carrier data symbol ~~(DMT0, DMT1, DMT2)~~, N being a second integer number ~~(N=8)~~, to thereby generate said pseudo-random sequence ~~(PRMS1)~~ of multi-carrier data symbols ~~(DMT0, DMT1, DMT2)~~,

wherein ~~CHARACTERIZED IN THAT~~ said packetizing comprises:

[[b1.]] dividing said pseudo-random bit sequence ~~(PRBS1)~~ into strings of N' bits, N' being a third integer value larger than N, wherein N is greater than or equal to two ~~(N'=9)~~; and

[[b2.]] using N bits out of each string of N' to generate a multi-carrier data symbol ~~(DMT0, DMT1, DMT2)~~ out of said pseudo-random sequence ~~(PRMS1)~~ of multi-carrier data symbols ~~(DMT0, DMT1, DMT2)~~, and leaving N'-N bits out of each string of N' bits unused.

2. (*Currently Amended*) A generator ~~Generator (PR-GEN1)~~ of a pseudo-random sequence ~~(PRMS1)~~ of multi-carrier data symbols ~~(DMT0, DMT1, DMT2)~~, said generator ~~(PR-GEN1)~~ comprising:

[[a.]] scrambling means ~~(SCR1)~~, adapted to repetitively generate a pseudo-random sequence of L bits, L being a first integer value ~~(L=4)~~, to thereby produce a pseudo-random bit sequence ~~(PRBS1)~~;

[[b.]] packetizing means, adapted to packetize into multi-carrier data symbols ~~(DMT0, DMT1, DMT2)~~ using N bits of said pseudo-random bit sequence ~~(PRBS1)~~ per multi-carrier data symbol ~~(DMT0, DMT1, DMT2)~~, N being a second integer number ~~(N=8)~~, to thereby generate said pseudo-random sequence ~~(PRMS1)~~ of multi-carrier data symbols ~~(DMT0, DMT1, DMT2)~~,

wherein ~~CHARACTERIZED IN THAT~~ said packetizing means comprises:

[[b1.]] dividing means ~~(DIV1)~~, adapted to divide said pseudo-random bit sequence ~~(PRBS1)~~ into strings of N' bits, N' being a third integer value larger than N, wherein N is greater than or equal to two ~~and (N'=9)~~; and

[[b2.]] multi-carrier data symbol generating means ~~(EMB1)~~, adapted to use N bits out of each string of N' bits to generate a multi-carrier data symbol ~~(DMT0, DMT1, DMT2)~~ out of said pseudo-random sequence ~~(PRMS1)~~ of multi-carrier data symbols ~~(DMT0, DMT1, DMT2)~~ and to leave N'-N bits out of each string of N' bits unused.

3. (*Currently Amended*) A multi-carrier ~~Multi-carrier~~ transmitter ~~(MC-TX)~~ comprising a pseudo-random sequence generator ~~(PR-GEN1)~~ as defined by claim 2[[1]], and further comprising transmitting means ~~(TX)~~, coupled to said pseudo-random sequence generator ~~(PR-GEN1)~~, and adapted to transmit a pseudo-random sequence ~~(PRMS1)~~ of multi-carrier symbols ~~(DMT0, DMT1, DMT2)~~ generated by said pseudo-random sequence generator ~~(PR-GEN1)~~ over a communication channel ~~(CHANNEL)~~.

4. (*Currently Amended*) A multi-carrier ~~Multi-carrier~~ transmitter ~~(MC-TX)~~ according to claim 3, wherein ~~CHARACTERIZED IN THAT~~ said multi-carrier transmitter ~~(MC-TX)~~ further comprises selection means ~~(SEL)~~, adapted to select said third integer value N', and communication means ~~(COM)~~ coupled to said selection means ~~(SEL)~~, and adapted to communicate said third integer value N' to a multi-carrier receiver ~~(MC-RX)~~.

5. (*Currently Amended*) A multi-carrier ~~Multi-carrier~~ transmitter ~~(MC-TX)~~ according to claim 4, wherein ~~CHARACTERIZED IN THAT~~ said selection means ~~(SEL)~~ is adapted to select said third integer value N' so that N' differs from L-1, so that N' differs from L+1, and so that N' is not fractionally related to L.

6. (*Currently Amended*) A multi-carrier ~~Multi-carrier~~ receiver ~~(MC-RX)~~ comprising a pseudo-random sequence generator ~~(PR-GEN2)~~ as defined by claim 2[[1]], and further comprising:

receiving means ~~(RX)~~ adapted to receive a first pseudo-random sequence ~~(PRMS1')~~ of multi-carrier symbols transmitted over a communication channel ~~(CHANNEL)~~, and

decoding means ~~(DECODER)~~, coupled to said receiving means ~~(RX)~~ and to said pseudo-random sequence generator ~~(PR-GEN2)~~, and adapted to decode said first pseudo-random sequence ~~(PRMS1')~~ of multi-carrier symbols and a second pseudo-random sequence ~~(PRMS2)~~ of multi-carrier symbols generated by said pseudo-random sequence generator ~~(PR-GEN2)~~.

7. (*New*) The method according to claim 1, wherein said third integer value N' differs from L-1, differs from L+1 and is not fractionally related to L.

8. (*New*) A generator of a pseudo-random sequence of multi-carrier data symbols, said generator, comprising:

a scrambler that repetitively generates a pseudo-random sequence of L bits, L being a first integer value, to thereby produce a pseudo-random bit sequence;

a packet generator that packetizes multi-carrier data symbols using N bits of said pseudo-random bit sequence per multi-carrier data symbol, N being a second integer number, to thereby generate said pseudo-random sequence of multi-carrier data symbols,

wherein said packet generator comprises:

a divider that divides said pseudo-random bit sequence into strings of N' bits, N' being a third integer value larger than N, and wherein , wherein N is greater than or equal to two; and

a multi-carrier data symbol generator that uses N bits out of each string of N' bits to generate a multi-carrier data symbol out of said pseudo-random sequence of multi-carrier data symbols and to leave N'-N bits out of each string of N' bits unused.

9. (*New*) A multi-carrier transmitter comprising a pseudo-random sequence generator as defined by claim 8, and further comprising a transmitter, coupled to said pseudo-random sequence generator, and adapted to transmit a pseudo-random sequence of multi-carrier symbols generated by said pseudo-random sequence generator over a communication channel.

10. (*New*) A multi-carrier transmitter according to claim 9, wherein said multi-carrier transmitter further comprises a switch that selects said third integer value N', and a communication device coupled to said switch, and adapted to communicate said third integer value N' to a multi-carrier receiver.

11. (*New*) A multi-carrier transmitter according to claim 10, wherein said switch is adapted to select said third integer value N' so that N' differs from L-1, so that N' differs from L+1, and so that N' is not fractionally related to L.

12. (*New*) A multi-carrier receiver comprising a pseudo-random sequence generator as defined by claim 8 and further comprising:

a receiver that receives a first pseudo-random sequence of multi-carrier symbols transmitted over a communication channel, and

a decoder coupled to said receiving means and to said pseudo-random sequence generator, and decoding said first pseudo-random sequence of multi-carrier symbols and a second pseudo-random sequence of multi-carrier symbols generated by said pseudo-random sequence generator.